CONTENTS

SECTION A—VOL. LXXVI

No. 1—July 1972

PAGE

Primary Cosmic Ray Nucleon Spectrum from Sea-Level Muon Spectrum and Scaling Hypothesis Parameters . . . . . P. V. Ramana Murthy and A. Subramanian 1

Harmonic Generation and Selection Rules in Nonlinear Optics . . . . . S. Bhagavantam and P. Chandrasekhar 13

Refinement of the Function for the Evaluation of the N-H..O Hydrogen Bond Potential Energy . R. Balasubramanian and C. Ramakrishnan 21

A Study of the Vestigial Records of Cosmic Rays in Lunar Rocks using a Thick Section Technique . . . . . N. Bhandari, J. N. Goswami, D. Lal, D. Macdougall and A. S. Tamhane 27

No. 2—August 1972

Acidity Function in Dipolar Aprotic Media . . . . . C. Kalidas, D. Lakshmana Rao and V. Srinivas Rao 51

Solutions of Thermal Boundary Layer Equations when Temperature Gradient at the Moving Flat Plate in Parabolic Flow is Prescribed . . . . . T. R. Gupta 59

Kinetics of Bromine Addition to Unsaturated Sulphones. Part V. Structural Influences . . . Sp. Shanmuganathan and V. Subramanian 72

Kinetics of Bromine Addition to Unsaturated Sulphones. Part VI. Catalytic Effect of Added Salts . Sp. Shanmuganathan and V. Subramanian 79

Non-Torsional Oscillations of a Disc in Rotating Second Order Fluid . . . . . P. D. Verma and N. C. Sacheti 87

No. 3—September 1972

PAGE

Irrotational Solitary Waves with Surface-Tension . . . . . B. Goswami and S. R. P. Sinha 105

Emission Spectrum of PrO . . . . . T. V. Venkitachalam, G. Krishnamurty and N. A. Narasimham 113

A Possible Cosmic Ray Primary Particle Energy Spectrum above 10^4 GeV and Its Astrophysical Implications . . A. Subramanian 121

Kinetics of the Thallic Ion Oxidation of Olefins . . . . . Nrusingha C. Khandual, Kamala K. Satpathy and P. L. Nayak 129

No. 4—October 1972

Parabolic Flow Over a Flat Plate with Wave Disturbance in the Main Stream . . . . . T. R. Gupta 137

NMR Studies of Reorientational Correlation Times in Dimethyl Sulphoxide . . . . . R. S. Chaghule and L. C. Gupta 153

A Note on Hydromagnetic Oscillatory Flow Along an Infinite Flat Plate with Variable Suction . V. V. Ramana Rao and A. Sithapathi 157

On Integral Functions of Finite Order with an Exceptional-P Value . . . . . V. R. Chariar 162

Electrodeposition of Copper on Copper Single Crystal (100), (110) and (111) Planes in presence of Thiosemicarbazide . . . . . B. S. Sheshadri and T. H. V. Setty 167

Are Critical Exponents Multivalued or Unique ? . . E. S. R. Gopal 176

No. 5—November 1972

PAGE

Equatorial Sporadic E and Cross-Field Instability · R. G. Rastogi 181

Pitch Angle Scattering into Loss Cone by Cyclotron Resonance · · · · · · · · K. S. Viswanathan and Miss K. Revathy 195

Spin-Lattice Relaxation Studies on Semiquinone Ions · · · · · · · · K. V. Lingam, P. G. Nair and Balu Venkataraman 207

Microwave Spectra and Centrifugal Distortion Constants of Orthofluoropyridine · · · · · · · S. D. Sharma and S. Doraiswamy 221

No. 6—December 1972

Electron Spin Resonance Studies of the Ligand Exchange in Cupric Complexes with Diethyldithiocarbamate and Diethyldithiophosphate as Ligands · B. S. Prabhananda, S. J. Shah and Balu Venkataraman 231

Thermal Deformations of a Sphere by Radiation from a Point Source · · · · · · · · · · · Harinder Singh and A. Singh 247

Synthesis of Some Chromono (6, 7) Oxazoles and their Physiological Activity · · · · · · · Y. D. Reddy and V. V. Somayajulu 263

Raman and Infrared Spectra of Ammonium Selenate and Lithium Ammonium Selenate · V. N. Sankaranarayanan and R. S. Krishnan 267